

# Contender™ LED Luminaires

## Enclosed and Gasketed Fixtures

**NEC/CEC:**  
 Class I, Division 2, Groups A,B,C,D  
 Class I, Zone 2, Group IIC  
 Class II, Division 1, Groups E,F,G  
 Zone 21 and 22, Group IIIC  
 Class II, Division 2, Groups F,G  
 Class III

**NEC/CEC:**  
 Type 3R, 4, 4X  
 IP66/67  
 Simultaneous Exposure  
 Suitable for Use in Wet Locations  
 Marine Outside Type (Salt Water) For USA ONLY  
 American Bureau of Shipping (ABS) Certified

### Applications

- Enclosed and gasketed fixtures suitable for use in:
  - A wide range of industrial, chemical processing and other areas where flammable gases, vapors and combustible dusts and fibers are present including simultaneous exposure
  - Marine and wet locations
  - Areas of low clearance, low ceiling heights or where fixture weights must be minimized
- Typical industries include:
  - Pulp and paper mills
  - Processing plants
  - Chemical plants
  - Petrochemical facilities
  - Oil refineries
  - Drilling rigs
  - Foundries
  - Waste treatment
  - Mining
  - Steel mills
- Typical applications include:
  - Walkways/catwalks
  - Stairwells
  - Grain elevators
  - Tunnels
  - Pipe racks
  - Offshore rigs
  - Vessel lighting
  - Cooling towers
  - Processing areas

### Features

- Mounts directly to the following Crouse-Hinds™ ⚡ Champ® VMV mounting hoods:

| Mounting Hoods     | Model Number |
|--------------------|--------------|
| Pendant            | APM2, APM3   |
| Flexible Pendant   | HPM2         |
| Ceiling            | CM2, CM3     |
| Wall               | TWM2, TWM3   |
| Quad               | QM25         |
| 25° Stanchion      | JM5          |
| Straight Stanchion | PM5          |

- Compact light weight low profile design is suited for low mounting heights (less than 12 lbs).
- Customize to the application requirements with four different field replaceable globe options: clear and diffused polycarbonate, clear glass, or prismatic glass refractor.
- Three Correlated Color Temperatures (CCTs) for a wide variety of applications: Cool (5000K), Neutral (4000K) and Warm (3000K)
- Three light output levels for retrofit of HID fixtures up to 175 W.

| Nominal Lumens ② | HID Equivalent | Model Number |
|------------------|----------------|--------------|
| 3300             | 70-100W        | VMV3LCG5BU   |
| 4400             | 100-150W       | VMV4LCG5BU   |
| 5500             | 150-175W       | VMV5LCG5BU   |

① Nominal Lumen value for 5000K CCT, clear glass globe. Detailed lumen information is provided in tables.

⚡ Crouse-Hinds is a registered trademarks of Cooper Crouse-Hinds.



- Standard 6 kV surge protection.
- Ambient Temperature: BU: -40 °C to +65 °C (-40 °F to +149 °F)  
 BH: -40 °C up to +65 °C (-40 °F up to +149 °F)
- Heavy duty, high temperature silicone rubber gaskets.
- Fixture life rated at 100,000 Hours with a calculated fixture life of 200,000 hours @ +25 °C (+77 °F).
- Field replaceable globes and IP66 rated LED driver.
- Rugged housing with superior thermal design translates to long luminaire life.
- Luminaire comes pre-wired with three conductors, approximately 12" long, of 14 AWG TEW wire from the IP68 watertight NPT hub at the top of the luminaire lid.

### Options

- Glass and Polycarbonate globe and glass refractor guards available, purchase separately.

### Standard Materials

- Luminaire body: cast copperfree (4/10 of 1% max.) aluminum
- All hardware: stainless steel
- Globe: polycarbonate or glass
- Refractor: heat-resistant prismatic glass
- Glass globe guard: stainless steel wire
- Glass refractor guard: die cast aluminum
- Reflector: fiberglass reinforced white polyester

### Standard Finishes

- Luminaire bodies and glass refractor guard: gray epoxy powder coat finish, electrostatically applied for complete uniform protection

### NEC/CEC Certifications and Compliances

- UL Standard: UL 50E, Second Edition; UL 844, Thirteenth Edition; UL 1598, Third Edition; UL 1598A, First Edition; UL 8750, Second Edition;
- CSA Standard: C22.2 No 0-10; C22.2 No. 94.2-15; C22.2 No. E60598-1:16; C22.2 No. 137-M1981; C22.2 No. 250.0-08; C22.2 No. 250.13-14; C22.2 No. 60529:16
- cCSAus Listed: Master contract 164460; Certificate Number 70170001

### DesignLights™ Consortium

- Check DLC QPL for current list of products.

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### Illustrated Features

#### Heatsink

Reliable heat transfer via the cast, epoxy powder coat aluminum body. Provides maximum heat dissipation from the LED assembly to the outside environment.

#### Driver Assembly

IP66 rated driver utilizes non-sparking components avoiding the ignition of gases or vapors that may be present.

#### Globe Gaskets

Silicone rubber gaskets seal out moisture, dirt and dust. Stays flexible, withstands extreme temperatures. Closure design assures uniform gasket compression.



#### Watertight

Watertight IP68 rated bushing where cord enters luminaire hood ensures no water will enter the luminaire from the conduit through the mounting hood.

#### Epoxy Finish

Fixture housing, hoods and guards are copperfree aluminum with triple protection epoxy powder coat finish.

#### “Safety” Cable

Safety cable option threads through the fixture housing for additional safety.



#### Electrical Protection

External Grounding provisions for additional safety.

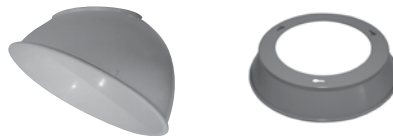


#### Prismatic Refractors

Heat-resistant refractor threads directly into fixture housing and seal against a high-temperature silicone rubber gasket.

#### Angeled Reflector and Visor

Angeled reflector is thick, tough fiberglass reinforced white polyester. Visor is aluminum with electrostatically applied, gray epoxy powder coat finish. Quickly attach either accessory to luminaire with furnished stainless steel screws.



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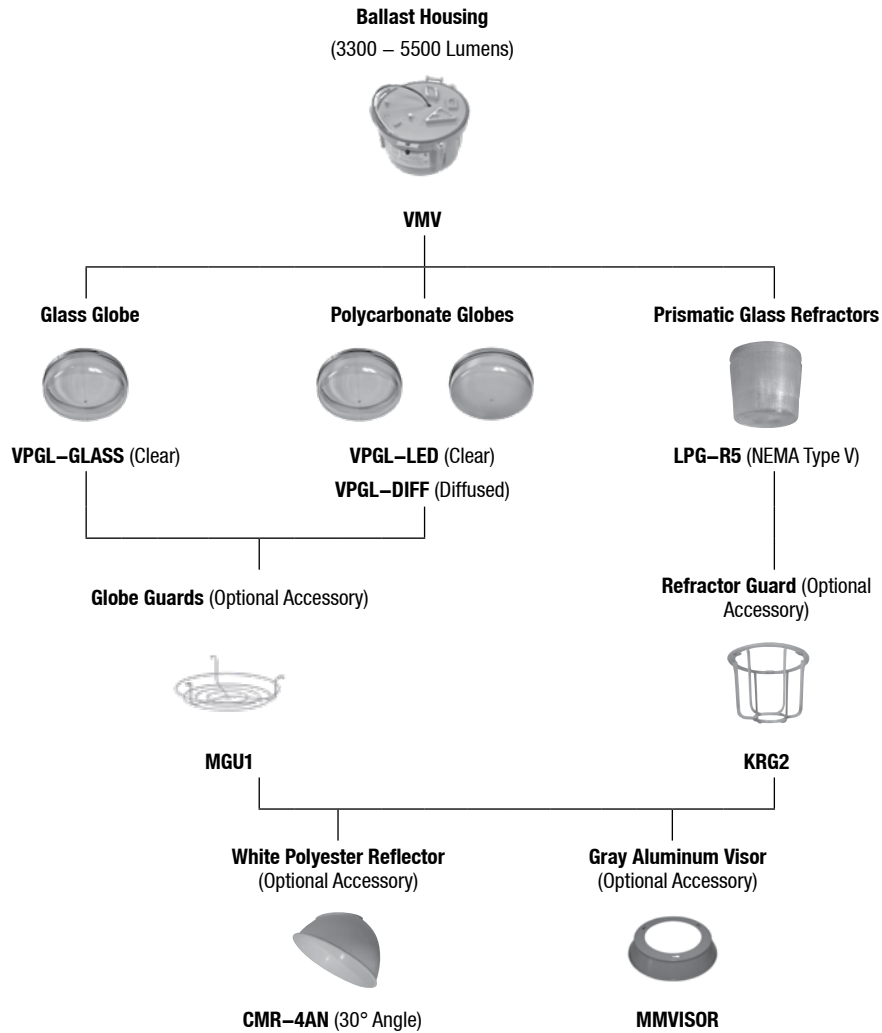
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### Contender™ LED Family Tree



APPLETON™

LED/AREA: NEC/CEC ENCLOSED AND GASKETED

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Order using catalog numbering guides below or select catalog number from tables on following pages.

### Catalog Numbering Guide For Hazardous Locations:

**VMV**

VMV - NEC/CEC Certified  
Contender LED Series

**3L**

Lumen Output ①:  
3L - 3K Lumens  
4L - 4K Lumens  
5L - 5K Lumens

**C**

Color Temperature:  
C - Cool 5000K CCT  
N - Neutral 4000K CCT  
W - Warm 3000K CCT

**P5**

Globe Material ②:  
P5 - NEMA Type V Clear  
Polycarbonate Globe  
D5 - NEMA Type V Diffused  
Polycarbonate Globe  
G5 - NEMA Type V Glass Globe  
J5 - NEMA Type V Glass Refractor

**BU**

Voltage:  
BU - 120-277 Vac, 50/60Hz;  
or 125-300Vdc  
BH - 347-480 Vac, 50/60Hz

① For specific lumen output information, see Lumen Output table.

② Guards for the glass refractor and globes are ordered separately. See the Accessories section for more information.

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### NEC/CEC Temperature Codes

| Model | Type | Ambient Temperature °C (°F) | Supply Wire Temperature °C (°F) | Gas                                     |                           | Dust                                      |                      | Gas/Dust   |
|-------|------|-----------------------------|---------------------------------|---|---------------------------|---|----------------------|--|
|       |      |                             |                                 | Class I, Division 2 Groups A, B, C, D ① | Class I, Zone 2 Group IIC | Class II, Division 1, Groups E, F and G ② | Zone 20, Group IIIC, | Simultaneous ① Class I, Division 2/ Class II, Division 1 |
|       | LED  | 40 (104)                    | 90 (194)                        | T4A                                     | T4                        | T6  | T6                   | T4A  |
| VMV3L | LED  | 55 (131)                    | 90 (194)                        | T4                                      | T4                        | T6  | T6                   | T4   |
|       | LED  | 65 (149)                    | 90 (194)                        | T4                                      | T4                        | T5  | T5                   | T4   |
|       | LED  | 40 (104)                    | 90 (194)                        | T4A                                     | T4                        | T6  | T6                   | T4A  |
| VMV4L | LED  | 55 (131)                    | 90 (194)                        | T4                                      | T4                        | T6  | T6                   | T4   |
|       | LED  | 65 (149)                    | 90 (194)                        | T4                                      | T4                        | T5  | T5                   | T4   |
|       | LED  | 40 (104)                    | 90 (194)                        | T4A                                     | T4                        | T6  | T6                   | T4A  |
| VMV5L | LED  | 55 (131)                    | 90 (194)                        | T4                                      | T4                        | T6  | T6                   | T4   |
|       | LED  | 65 (149)                    | 90 (194)                        | T4                                      | T4                        | T5  | T5                   | T4   |

“T” Numbers Represent the Maximum Internal Temperature ① or Maximum Surface Temperature ②

| “T” #               | NEC/CEC           |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                  |          |
|---------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|----------|
|                     | T1                | 350               | 325               | T2                | T2A               | T2B               | T2C               | T2D               | T3                | T3A               | T3B               | T3C               | T4                | T4A               | T5               | T6       |
| Temp. Range °C (°F) | 351-450 (664-842) | 326-350 (619-662) | 301-325 (574-617) | 281-300 (538-572) | 261-280 (502-536) | 231-260 (448-500) | 216-230 (421-446) | 201-215 (394-419) | 181-200 (358-392) | 166-180 (331-356) | 161-165 (322-329) | 136-160 (277-320) | 121-135 (250-275) | 101-120 (214-248) | 86-100 (187-212) | 85 (185) |

① T numbers represent the maximum internal temperature for Class I, Division 2 and Class I, Zone 2 locations designated by the NEC.

② T numbers represent the maximum surface temperature under a dust blanket for Class II, Division 1 as designated by the NEC.

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**Lumen Values Table ①②**

| Model              | Lumens ①                     |                                    |                      | Type V<br>Prismatic<br>Glass Refractor | CRI ② | Color Temp<br>CCT | Equivalent HID<br>Luminaire |
|--------------------|------------------------------|------------------------------------|----------------------|--|-------|-------------------|-----------------------------|
|                    | Polycarbonate<br>Clear Globe | Polycarbonate<br>Diffused<br>Globe | Glass Clear<br>Globe |  |       |                   |                             |
| <b>NEMA Type V</b> |                              |                                    |                      |  |       |                   |                             |
| VMV3L              | 3200                         | 3100                               | 3300                 | 3000                                   |       |                   | 70-100W                     |
| VMV4L              | 4200                         | 4100                               | 4400                 | 4000                                   | >70   | 5000K             | 100-150W                    |
| VMV5L              | 5300                         | 5150                               | 5500                 | 4900                                   |       |                   | 150-175W                    |
| <b>NEMA Type V</b> |                              |                                    |                      |  |       |                   |                             |
| VMV3L              | 3000                         | 2900                               | 3100                 | 2800                                   |       |                   | 70-100W                     |
| VMV4L              | 4000                         | 3900                               | 4200                 | 3800                                   | >70   | 4000K             | 100-150W                    |
| VMV5L              | 5000                         | 4900                               | 5200                 | 4650                                   |       |                   | 150-175W                    |
| <b>NEMA Type V</b> |                              |                                    |                      |  |       |                   |                             |
| VMV3L              | 3000                         | 2900                               | 3100                 | 2800                                   |       |                   | 70-100W                     |
| VMV4L              | 3900                         | 3800                               | 4100                 | 3700                                   | >70   | 3000K             | 100-150W                    |
| VMV5L              | 4900                         | 4800                               | 5100                 | 4600                                   |       |                   | 150-175W                    |

① All lumen values are typical (tolerance +/- 10%).

② 70 minimum.

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**Electrical Ratings** ①

| Model | Voltage | Input Power (Watts) | Input Current (Amps) | Power Factor (PF) | Total Harmonic Distortion (THD) |
|-------|---------|---------------------|----------------------|-------------------|---------------------------------|
| VMV3L | 120 Vac | 28.0                | .28                  | > .94             | < 20%                           |
|       | 277 Vac | 28.0                | .13                  |                   |                                 |
|       | 125 Vdc | 27.2                | .24                  | —                 |                                 |
|       | 300 Vdc | 27.2                | .09                  | —                 |                                 |
|       | 347 Vac | 29.7                | .10                  | > .93             |                                 |
|       | 480 Vac | 29.8                | .06                  | > .93             |                                 |
| VMV4L | 120 Vac | 38.0                | .38                  | > .96             | < 20%                           |
|       | 277 Vac | 38.0                | .16                  |                   |                                 |
|       | 125 Vdc | 37.4                | .32                  | —                 |                                 |
|       | 300 Vdc | 39.0                | .13                  | —                 |                                 |
|       | 347 Vac | 39.6                | .13                  | > .96             |                                 |
|       | 480 Vac | 39.7                | .08                  | > .96             |                                 |
| VMV5L | 120 Vac | 48.0                | .48                  | > .97             | < 20%                           |
|       | 277 Vac | 48.0                | .20                  |                   |                                 |
|       | 125 Vdc | 50.2                | .40                  | —                 |                                 |
|       | 300 Vdc | 48.0                | .16                  | —                 |                                 |
|       | 347 Vac | 50.5                | .16                  | > .97             |                                 |
|       | 480 Vac | 50.4                | .10                  | > .97             |                                 |

① All values are typical (tolerance +/-10%).

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### Fixture Unit — Ballast Body and Globe or Refractor



| Lumen Level  | LED Wattage | Light Level Equivalent | NEMA Type | Catalog Number ①        |                                  |                 |                                 |
|--|-------------|------------------------|-----------|-------------------------|----------------------------------|-----------------|---------------------------------|
|  |             |                        |           | Polycarbonate Globe ①②③ | Polycarbonate Diffused Globe ①②③ | Glass Globe ①②③ | With Type V Glass Refractor ①②③ |
| <b>NEC/CEC Certified Fixture Housing - For Hazardous Locations</b> |             |                        |           |                         |                                  |                 |                                 |
| 3K   | 28          | 70-100W HPS            | Type V    | VMV3LCP5                | VMV3LCD5                         | VMV3LCG5        | VMV3LCJ5                        |
| 4K   | 38          | 100-150W HPS           | Type V    | VMV4LCP5                | VMV4LCD5                         | VMV4LCG5        | VMV4LCJ5                        |
| 5K   | 48          | 150-175W HPS           | Type V    | VMV5LCP5                | VMV5LCD5                         | VMV5LCG5        | VMV5LCJ5                        |

### Replacement Parts

|   | Description                    | Catalog Number |
|---|--------------------------------|----------------|
| <b>Globes and Gaskets</b>   |                                |                |
|  | Clear Globe (polycarbonate)    | VPGL-LED       |
|  | Diffused Globe (polycarbonate) | VPGL-DIFF      |
|  | Glass Globe                    | VPGL-GLASS     |
| <b>Closed Prismatic Glass Refractors — All Heat-Resistant</b>                       |                                |                |
|  | NEMA Type V                    | LPG-R5         |

① For 120-277 Vac, use suffix **-BU**. For 347-480 Vac, use suffix **-BH**.

② Guards are available for fixtures with glass globe or refractor. See following pages for accessory ordering information.

③ Correlated Color Temperature (CCT) indicated by C, N or W; C = Cool, 5000K CCT, N = Neutral, 4000K CCT, W = Warm, 3000K CCT. Example: **VMV5LCD5BU**.

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**Accessories**

|  |   | Description   | Catalog Number |
|--|---|---|----------------|
| <b>White Polyester Reflectors</b>  |   |   |                |
|   |   | 30° Angle   | CMR-4AN        |
|  |   | 30° Angle   |                |
| <b>Guards</b>  |   |   |                |
|   |   | Glass Globe Guard   | MGU1           |
|  |  | Refractor Guard   | KRG2           |
| <b>Safety Cable</b>  |   |   |                |
|   |   | Stainless steel.  | LEDSC          |
| <b>Visor</b>   |   |   |                |
|  |   | Electrostatically applied gray epoxy powder coat finish on Aluminum Visor | MMVISOR        |

**Replacement Drivers**

|   | Voltage | Driver Wattage | Luminaire Model | Constant Current Settings | Catalog Number  |
|---|---------|----------------|-----------------|---------------------------|-----------------|
|  | BU      | 50 Watt        | VMV3L           | 720mA                     | APMS050C135UD72 |
|   | BH      |                |                 | 720mA                     | APMS050C135HD72 |
|   | BU      | 50 Watt        | VMV4L           | 1000mA                    | APMS050C135UD10 |
|   | BH      |                |                 | 1000mA                    | APMS050C135HD10 |
|   | BU      | 50 Watt        | VMV5L           | 1300mA                    | APMS050C135UD13 |
|   | BH      |                |                 | 1300mA                    | APMS050C135HD13 |

**Contender™ LED Low Profile Fixture and Globe Weights**

| Description                             | Weight kg (lb) |
|---|----------------|
| Fixture Unit (with polycarbonate globe) | 5.30 (11.80)   |
| Clear Glass Globe                       | 0.88 (1.95)    |
| Clear and Diffused Polycarbonate Globe  | 0.23 (0.50)    |
| Prismatic Glass Refractor               | 2.30 (5.10)    |

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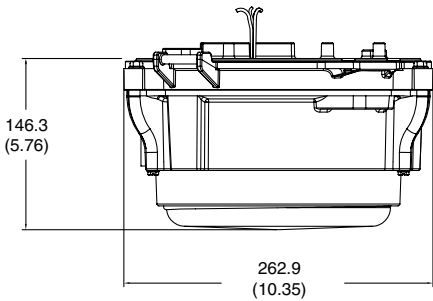
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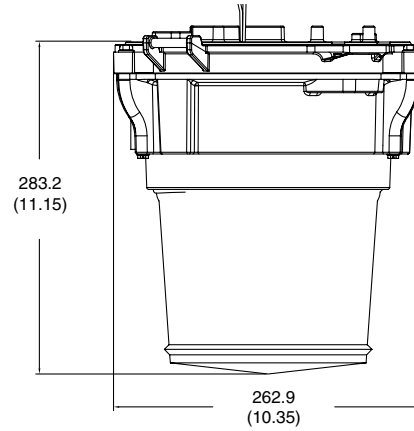
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Dimensions in Millimeters (Inches)



Clear/Diffused/Glass Globes



Closed Prismatic Glass Refractor

APPLETON™

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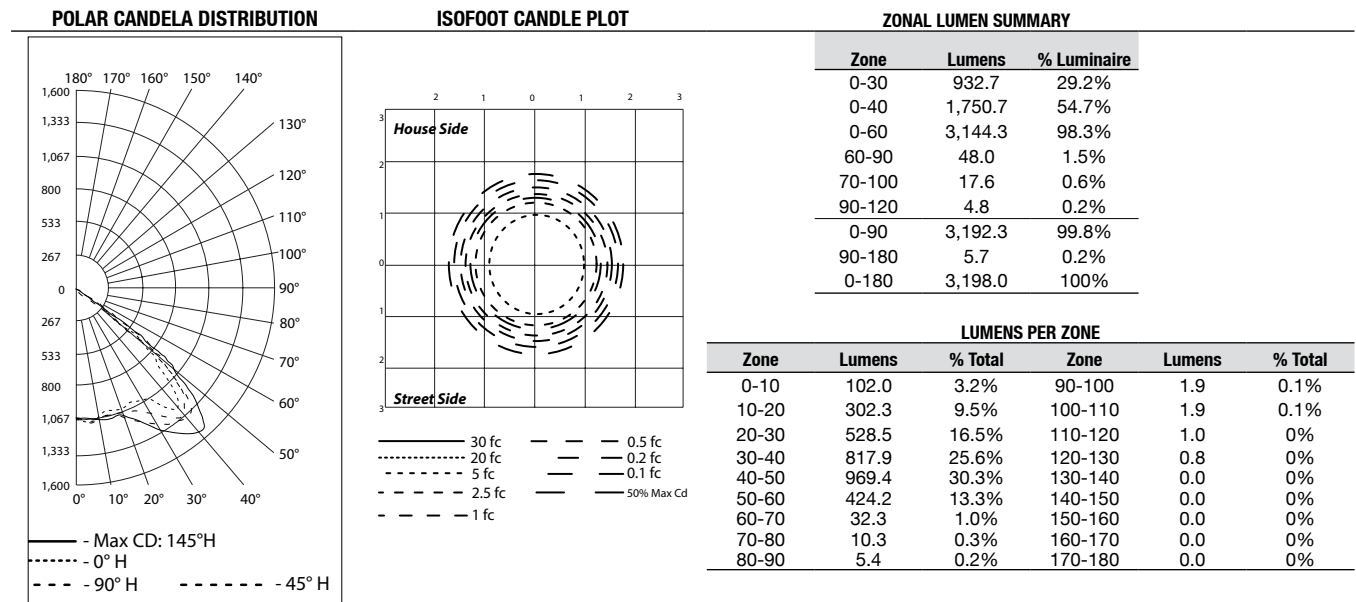
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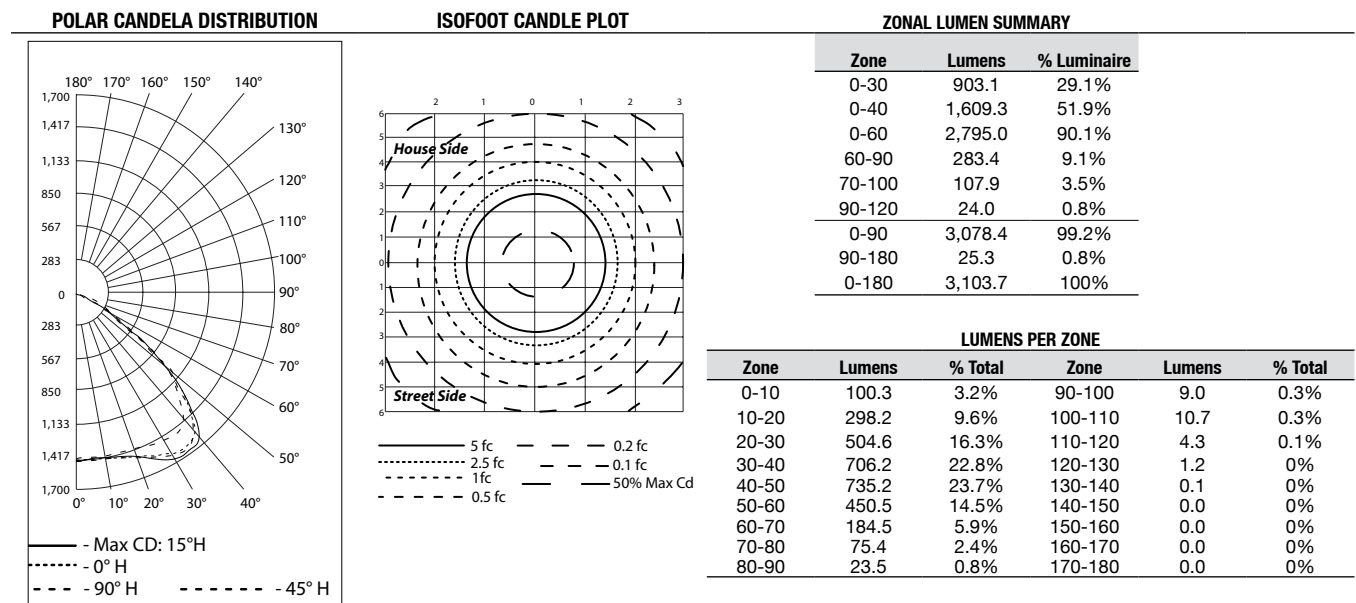
**Type V, Clear Polycarbonate 5000K CCT**  
 REPORT NUMBER: VMV3LCP5BU

Luminaire Lumens 3,198



**Type V, Clear Polycarbonate 5000K CCT**  
 REPORT NUMBER: VMV3LCD5BU

Luminaire Lumens 3,103



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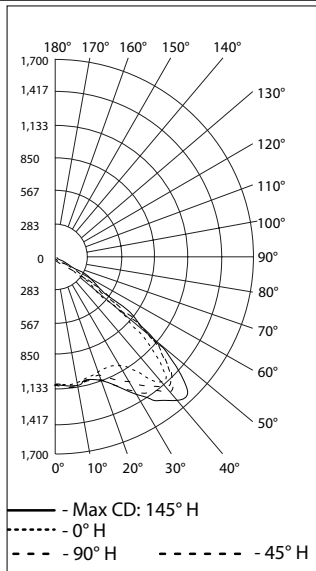
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**Type V, Clear Polycarbonate 5000K CCT**

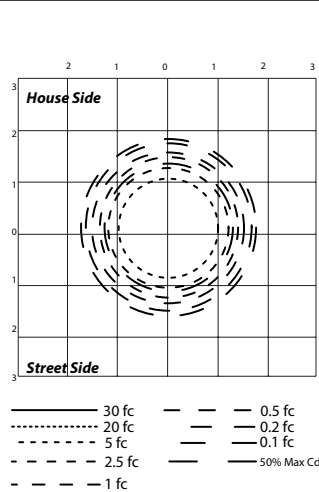
REPORT NUMBER: **VMV3LCG5BU**

Luminaire Lumens 3,334

#### POLAR CANDELA DISTRIBUTION



#### ISOFOOT CANDLE PLOT



#### ZONAL LUMEN SUMMARY

| Zone   | Lumens  | % Luminaire |
|--------|---------|-------------|
| 0-30   | 960.0   | 28.8%       |
| 0-40   | 1,828.8 | 54.8%       |
| 0-60   | 3,298.1 | 98.9%       |
| 60-90  | 32.1    | 1%          |
| 70-100 | 8.4     | 0.3%        |
| 90-120 | 3.9     | 0.1%        |
| 0-90   | 3,330.2 | 99.9%       |
| 90-180 | 4.2     | 0.1%        |
| 0-180  | 3,334.5 | 100%        |

#### LUMENS PER ZONE

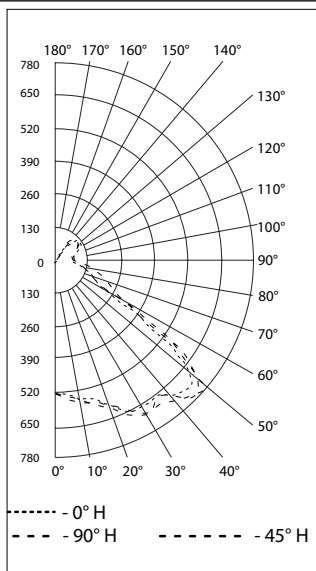
| Zone  | Lumens  | % Total | Zone    | Lumens | % Total |
|-------|---------|---------|---------|--------|---------|
| 0-10  | 105.6   | 3.2%    | 90-100  | 1.1    | 0%      |
| 10-20 | 309.3   | 9.3%    | 100-110 | 1.2    | 0%      |
| 20-30 | 545.0   | 16.3%   | 110-120 | 1.6    | 0%      |
| 30-40 | 868.8   | 26.1%   | 120-130 | 0.3    | 0%      |
| 40-50 | 1,049.7 | 31.5%   | 130-140 | 0.0    | 0%      |
| 50-60 | 419.6   | 12.6%   | 140-150 | 0.1    | 0%      |
| 60-70 | 24.8    | 0.7%    | 150-160 | 0.0    | 0%      |
| 70-80 | 4.9     | 0.1%    | 160-170 | 0.0    | 0%      |
| 80-90 | 2.4     | 0.1%    | 170-180 | 0.0    | 0%      |

**Type V, Clear Polycarbonate 5000K CCT**

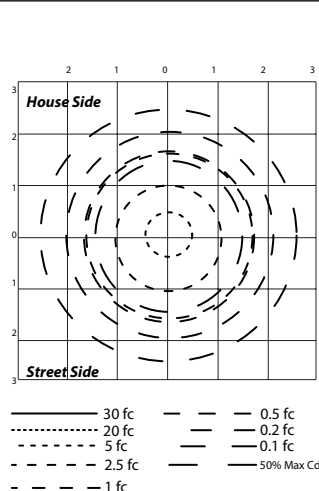
REPORT NUMBER: **VMV3LCJ5BU**

Luminaire Lumens 3,020

#### POLAR CANDELA DISTRIBUTION



#### ISOFOOT CANDLE PLOT



#### ZONAL LUMEN SUMMARY

| Zone   | Lumens  | % Luminaire |
|--------|---------|-------------|
| 0-30   | 526.8   | 17.4%       |
| 0-40   | 959.4   | 31.8%       |
| 0-60   | 2,035.0 | 67.4%       |
| 60-90  | 516.7   | 17.1%       |
| 70-100 | 363.7   | 12%         |
| 90-120 | 231.1   | 7.6%        |
| 0-90   | 2,551.7 | 84.5%       |
| 90-180 | 468.9   | 15.5%       |
| 0-180  | 3,020.6 | 100%        |

#### LUMENS PER ZONE

| Zone  | Lumens | % Total | Zone    | Lumens | % Total |
|-------|--------|---------|---------|--------|---------|
| 0-10  | 52.5   | 1.7%    | 90-100  | 81.0   | 2.7%    |
| 10-20 | 167.2  | 5.5%    | 100-110 | 70.8   | 2.3%    |
| 20-30 | 307.0  | 10.2%   | 110-120 | 79.3   | 2.6%    |
| 30-40 | 432.6  | 14.3%   | 120-130 | 104.8  | 3.5%    |
| 40-50 | 573.9  | 19.0%   | 130-140 | 90.3   | 3%      |
| 50-60 | 501.7  | 16.6%   | 140-150 | 37.8   | 1.3%    |
| 60-70 | 234.1  | 7.7%    | 150-160 | 4.9    | 0.2%    |
| 70-80 | 167.4  | 5.5%    | 160-170 | 0.0    | 0%      |
| 80-90 | 115.3  | 3.8%    | 170-180 | 0.0    | 0%      |

# Contender™ LED Luminaires

## Enclosed and Gasketed Fixtures

**NEC/CEC:**

Class I, Division 2, Groups A,B,C,D  
 Class I, Zone 2, Group IIC  
 Class II, Division 1, Groups E,F,G  
 Zone 21 and 22, Group IIC  
 Class II, Division 2, Groups F,G  
 Class III

**NEC/CEC:**

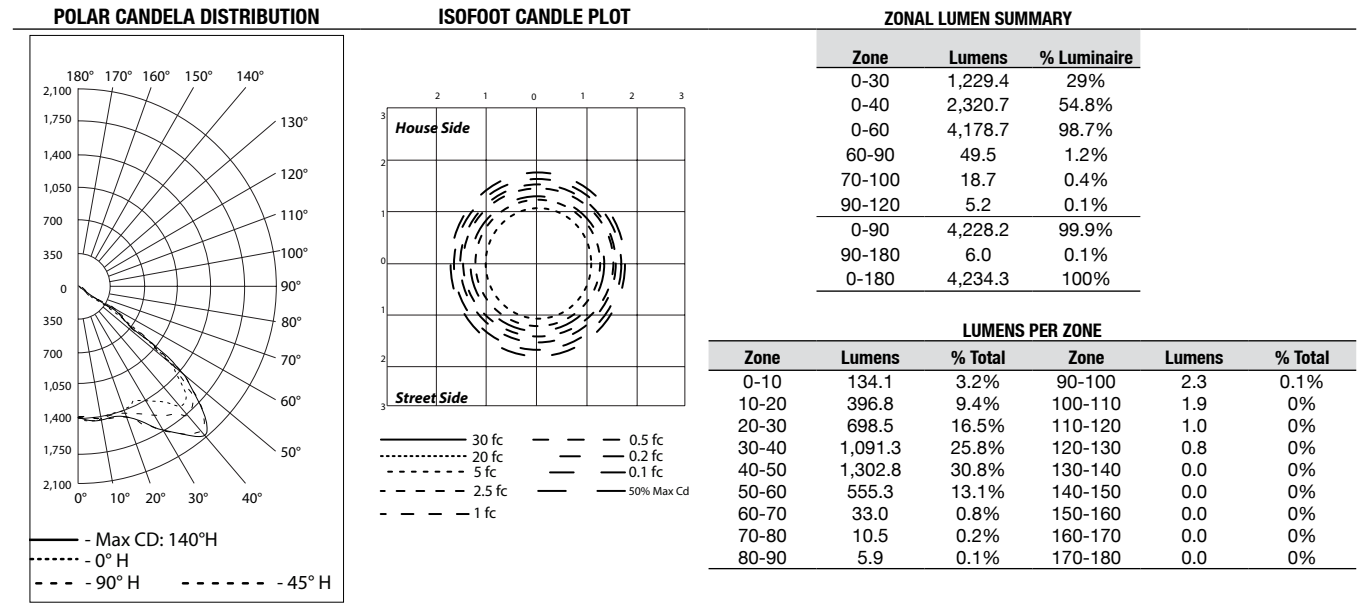
Type 3R, 4, 4X  
 IP66/67  
 Simultaneous Exposure  
 Suitable for Use in Wet Locations  
 Marine Outside Type (Salt Water) For USA ONLY  
 American Bureau of Shipping (ABS) Certified

**Photometric Data – DATA SHOWN IS ABSOLUTE**

**Type V, Clear Polycarbonate 5000K CCT**

REPORT NUMBER: **VMV4LCP5BU**

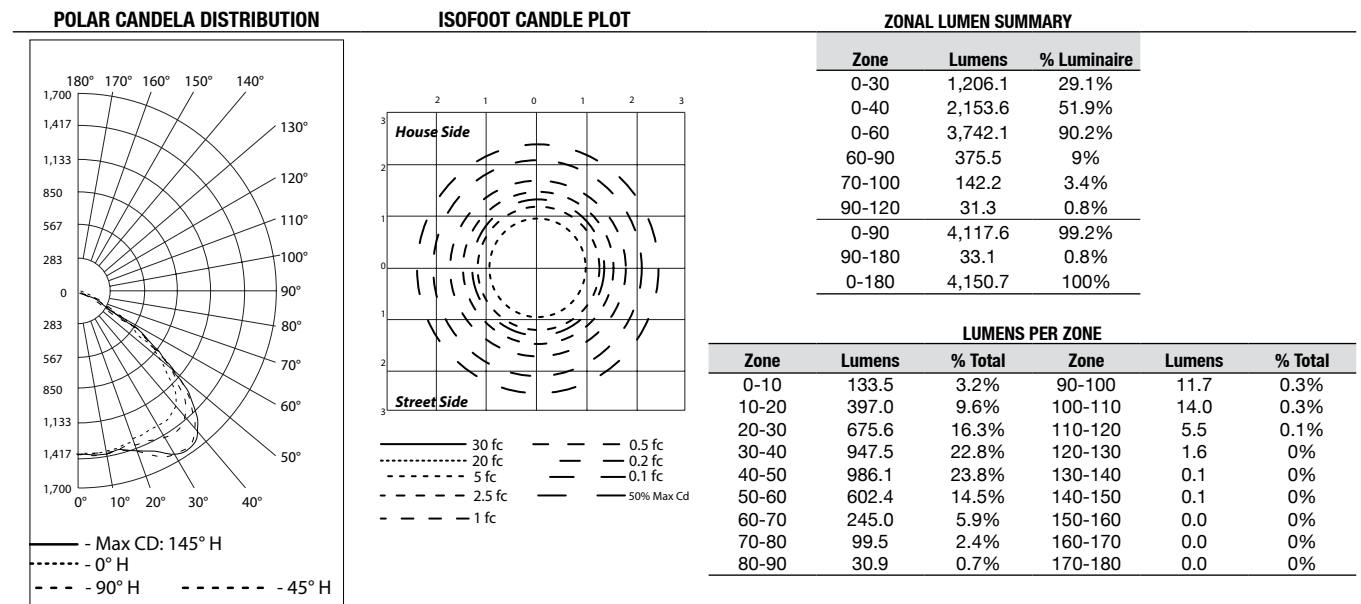
Luminaire Lumens 4,234



**Type V, Clear Polycarbonate 5000K CCT**

REPORT NUMBER: **VMV4LCD5BU**

Luminaire Lumens 4,151



# Contender™ LED Luminaires

## Enclosed and Gasketed Fixtures

NEC/CEC:  
 Class I, Division 2, Groups A,B,C,D  
 Class I, Zone 2, Group IIC  
 Class II, Division 1, Groups E,F,G  
 Zone 21 and 22, Group IIC  
 Class II, Division 2, Groups F,G  
 Class III

NEC/CEC:  
 Type 3R, 4, 4X  
 IP66/67  
 Simultaneous Exposure  
 Suitable for Use in Wet Locations  
 Marine Outside Type (Salt Water) For USA ONLY  
 American Bureau of Shipping (ABS) Certified

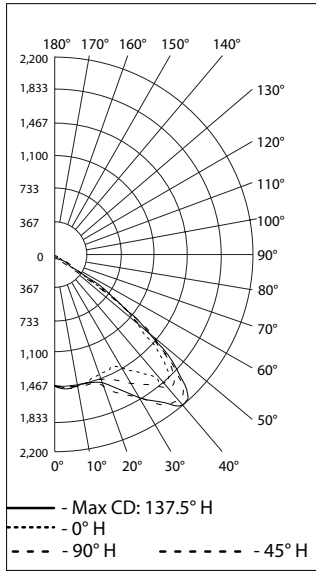
### Photometric Data – DATA SHOWN IS ABSOLUTE

#### Type V, Clear Polycarbonate 5000K CCT

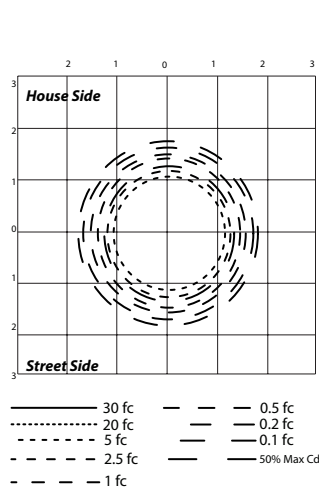
REPORT NUMBER: VMV4LCG5BU

Luminaire Lumens 4,468

#### POLAR CANDELA DISTRIBUTION



#### ISOFOOT CANDLE PLOT



#### ZONAL LUMEN SUMMARY

| Zone   | Lumens  | % Luminaire |
|--------|---------|-------------|
| 0-30   | 1,282.8 | 28.7%       |
| 0-40   | 2,447.8 | 54.8%       |
| 0-60   | 4,419.1 | 98.9%       |
| 60-90  | 42.9    | 1%          |
| 70-100 | 11.0    | 0.2%        |
| 90-120 | 4.8     | 0.1%        |
| 0-90   | 4,461.9 | 99.9%       |
| 90-180 | 6.1     | 0.1%        |
| 0-180  | 4,468.0 | 100%        |

#### LUMENS PER ZONE

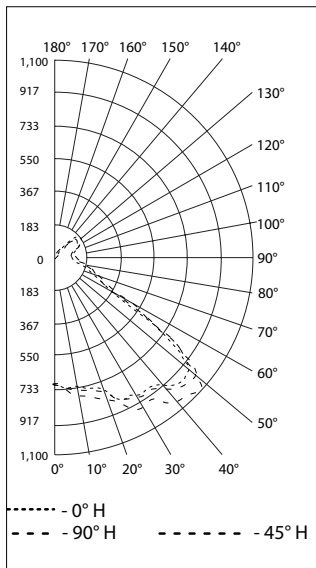
| Zone  | Lumens  | % Total | Zone    | Lumens | % Total |
|-------|---------|---------|---------|--------|---------|
| 0-10  | 140.3   | 3.1%    | 90-100  | 1.2    | 0%      |
| 10-20 | 411.6   | 9.2%    | 100-110 | 1.4    | 0%      |
| 20-30 | 730.9   | 16.4%   | 110-120 | 2.1    | 0%      |
| 30-40 | 1,164.9 | 26.1%   | 120-130 | 0.6    | 0%      |
| 40-50 | 1,407.0 | 31.5%   | 130-140 | 0.1    | 0%      |
| 50-60 | 564.3   | 12.6%   | 140-150 | 0.4    | 0%      |
| 60-70 | 33.0    | 0.7%    | 150-160 | 0.2    | 0%      |
| 70-80 | 6.5     | 0.1%    | 160-170 | 0.1    | 0%      |
| 80-90 | 3.3     | 0.1%    | 170-180 | 0.0    | 0%      |

#### Type V, Clear Polycarbonate 5000K CCT

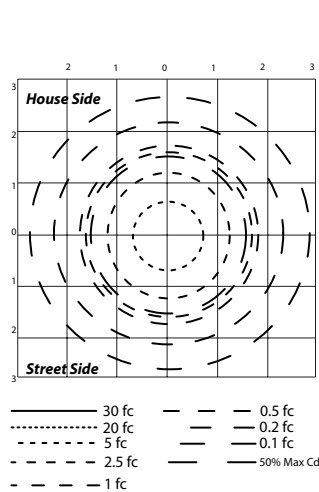
REPORT NUMBER: VMV4LCJ5BU

Luminaire Lumens 4,020

#### POLAR CANDELA DISTRIBUTION



#### ISOFOOT CANDLE PLOT



#### ZONAL LUMEN SUMMARY

| Zone   | Lumens  | % Luminaire |
|--------|---------|-------------|
| 0-30   | 699.2   | 17.4%       |
| 0-40   | 1,275.6 | 31.7%       |
| 0-60   | 2,714.3 | 67.5%       |
| 60-90  | 689.0   | 17.1%       |
| 70-100 | 484.7   | 12.1%       |
| 90-120 | 307.5   | 7.6%        |
| 0-90   | 3,403.3 | 84.6%       |
| 90-180 | 617.3   | 15.4%       |
| 0-180  | 4,020.6 | 100%        |

#### LUMENS PER ZONE

| Zone  | Lumens | % Total | Zone    | Lumens | % Total |
|-------|--------|---------|---------|--------|---------|
| 0-10  | 70.0   | 1.7%    | 90-100  | 107.5  |         |
| 10-20 | 222.3  | 5.5%    | 100-110 | 94.0   |         |
| 20-30 | 406.9  | 10.1%   | 110-120 | 106.0  |         |
| 30-40 | 576.4  | 14.3%   | 120-130 | 137.5  |         |
| 40-50 | 768.1  | 19.1%   | 130-140 | 116.8  |         |
| 50-60 | 670.6  | 16.7%   | 140-150 | 49.1   |         |
| 60-70 | 311.8  | 7.8%    | 150-160 | 6.2    |         |
| 70-80 | 223.5  | 5.6%    | 160-170 | 0.0    |         |
| 80-90 | 153.7  | 3.8%    | 170-180 | 0      |         |

# Contender™ LED Luminaires

## Enclosed and Gasketed Fixtures

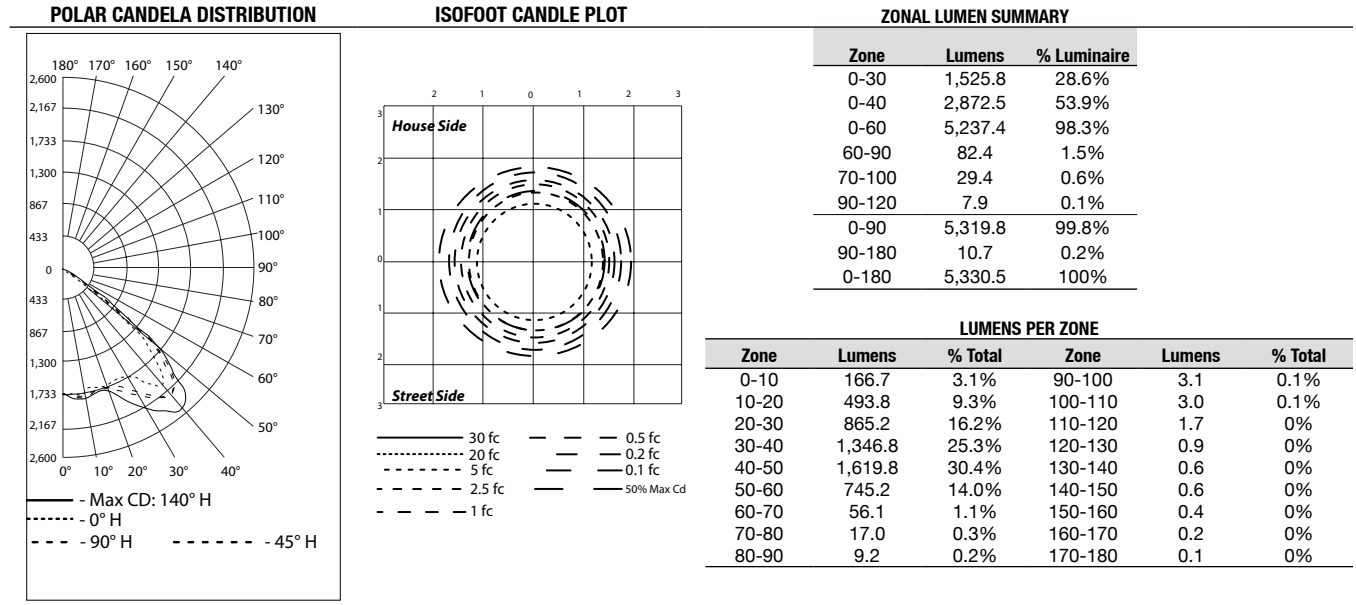
**NEC/CEC:**  
 Class I, Division 2, Groups A,B,C,D  
 Class I, Zone 2, Group IIC  
 Class II, Division 1, Groups E,F,G  
 Zone 21 and 22, Group IIC  
 Class II, Division 2, Groups F,G  
 Class III

**NEC/CEC:**  
 Type 3R, 4, 4X  
 IP66/67  
 Simultaneous Exposure  
 Suitable for Use in Wet Locations  
 Marine Outside Type (Salt Water) For USA ONLY  
 American Bureau of Shipping (ABS) Certified

### Photometric Data – DATA SHOWN IS ABSOLUTE

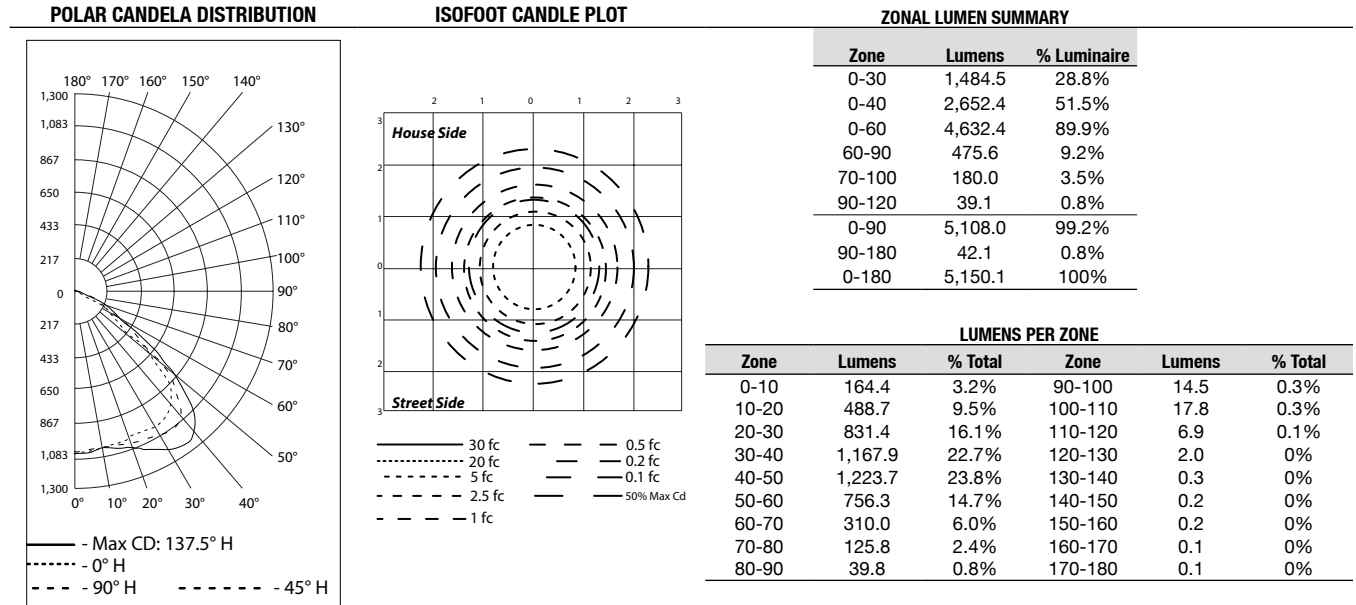
**Type V, Clear Polycarbonate 5000K CCT**  
 REPORT NUMBER: **VMV5LCP5BU**

Luminaire Lumens 5,330



**Type V, Clear Polycarbonate 5000K CCT**  
 REPORT NUMBER: **VMV5LCD5BU**

Luminaire Lumens 5,150



# Contender™ LED Luminaires

## Enclosed and Gasketed Fixtures

**NEC/CEC:**  
 Class I, Division 2, Groups A,B,C,D  
 Class I, Zone 2, Group IIC  
 Class II, Division 1, Groups E,F,G  
 Zone 21 and 22, Group IIC  
 Class II, Division 2, Groups F,G  
 Class III

**NEC/CEC:**  
 Type 3R, 4, 4X  
 IP66/67  
 Simultaneous Exposure  
 Suitable for Use in Wet Locations  
 Marine Outside Type (Salt Water) For USA ONLY  
 American Bureau of Shipping (ABS) Certified

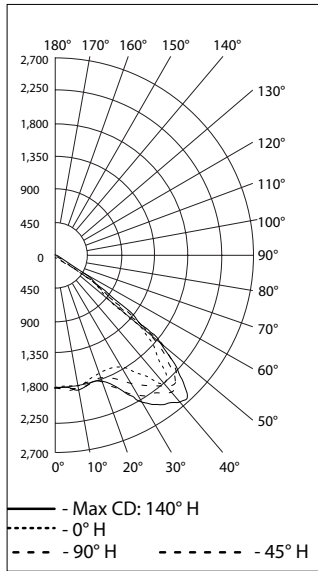
### Photometric Data — DATA SHOWN IS ABSOLUTE

#### Type V, Clear Polycarbonate 5000K CCT

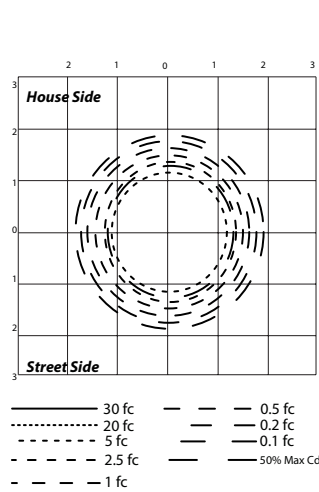
REPORT NUMBER: VMV5LCG5BU

Luminaire Lumens 5,529

#### POLAR CANDELA DISTRIBUTION



#### ISOFOOT CANDLE PLOT



#### ZONAL LUMEN SUMMARY

| Zone   | Lumens  | % Luminaire |
|--------|---------|-------------|
| 0-30   | 1,575.5 | 28.5%       |
| 0-40   | 2,990.6 | 54.1%       |
| 0-60   | 5,434.7 | 98.3%       |
| 60-90  | 81.6    | 1.5%        |
| 70-100 | 27.7    | 0.5%        |
| 90-120 | 10.6    | 0.2%        |
| 0-90   | 5,516.3 | 99.8%       |
| 90-180 | 13.4    | 0.2%        |
| 0-180  | 5,529.7 | 100%        |

#### LUMENS PER ZONE

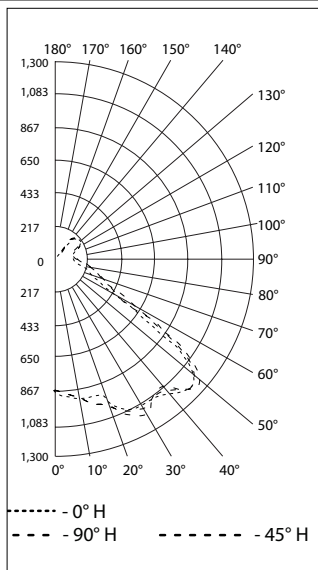
| Zone  | Lumens  | % Total | Zone    | Lumens | % Total |
|-------|---------|---------|---------|--------|---------|
| 0-10  | 173.1   | 3.1%    | 90-100  | 3.8    | 0.1%    |
| 10-20 | 506.7   | 9.2%    | 100-110 | 3.3    | 0.1%    |
| 20-30 | 895.7   | 16.2%   | 110-120 | 3.5    | 0.1%    |
| 30-40 | 1,415.1 | 25.6%   | 120-130 | 1.3    | 0%      |
| 40-50 | 1,712.6 | 31.0%   | 130-140 | 0.5    | 0%      |
| 50-60 | 731.4   | 13.2%   | 140-150 | 0.4    | 0%      |
| 60-70 | 57.6    | 1.0%    | 150-160 | 0.4    | 0%      |
| 70-80 | 15.7    | 0.3%    | 160-170 | 0.2    | 0%      |
| 80-90 | 8.2     | 0.1%    | 170-180 | 0.1    | 0%      |

#### Type V, Clear Polycarbonate 5000K CCT

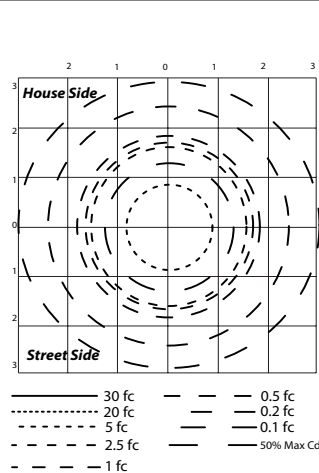
REPORT NUMBER: VMV5LCJ5BU

Luminaire Lumens 4,940

#### POLAR CANDELA DISTRIBUTION



#### ISOFOOT CANDLE PLOT



#### ZONAL LUMEN SUMMARY

| Zone   | Lumens  | % Luminaire |
|--------|---------|-------------|
| 0-30   | 872.9   | 17.7%       |
| 0-40   | 1,570.0 | 31.8%       |
| 0-60   | 3,310.7 | 67%         |
| 60-90  | 861.5   | 17.4%       |
| 70-100 | 606.8   | 12.3%       |
| 90-120 | 378.1   | 7.7%        |
| 0-90   | 4,172.1 | 84.4%       |
| 90-180 | 768.2   | 15.6%       |
| 0-180  | 4,940.4 | 100%        |

#### LUMENS PER ZONE

| Zone  | Lumens | % Total | Zone    | Lumens | % Total |
|-------|--------|---------|---------|--------|---------|
| 0-10  | 85.6   | 1.7%    | 90-100  | 134.2  | 2.7%    |
| 10-20 | 278.2  | 5.6%    | 100-110 | 116.1  | 2.3%    |
| 20-30 | 509.2  | 10.3%   | 110-120 | 127.8  | 2.6%    |
| 30-40 | 697.1  | 14.1%   | 120-130 | 169.8  | 3.4%    |
| 40-50 | 923.1  | 18.7%   | 130-140 | 148.5  | 3%      |
| 50-60 | 817.6  | 16.5%   | 140-150 | 63.2   | 1.3%    |
| 60-70 | 388.8  | 7.9%    | 150-160 | 8.4    | 0.2%    |
| 70-80 | 280.0  | 5.7%    | 160-170 | 0.1    | 0%      |
| 80-90 | 192.7  | 3.9%    | 170-180 | 0      | 0%      |